



WISCONSIN DEPARTMENT OF NATURAL RESOURCES TIER 3 MANAGEMENT PLAN – RESOURCE MANAGEMENT PROPERTY

Property Name: Pierce County Islands Wildlife Area

Property Designation or Type: Wildlife Area

Property Code Number: 8215

Property Location: Pierce County

Real Estate:

Project boundary acreage: Existing: 3,459; Proposed: 3,835

Fee acres owned: 969

Easement acres owned: <1

Acreage goal: 897

Federal aid interest: Yes

Land use agreements: None

Maps:

A: DNR Lands and Recreation Infrastructure

B: Real Estate Action Items

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Prepared by (Property Manager):

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Approved by Natural Resources Board:

Date:

A. REGIONAL AND PROPERTY ASSESSMENT

1. Landscape and Regional Context

The Pierce County Islands Wildlife Area (PCI WA) is located within the [Western Coulee and Ridges Ecological Landscape](#). This Landscape is characterized by its highly eroded, unglaciated topography, with steep sided valleys and ridges, high gradient headwaters streams, and large rivers with extensive, complex floodplains and terraces. Ancient sand dunes occur on some of the broader terraces along the Mississippi and Wisconsin rivers.

Historical vegetation in this landscape consisted of southern hardwood forests, oak savanna, scattered prairies and floodplain forests and marshes along the major rivers. With Euro-American settlement, most of the land on ridge tops and valley bottoms was cleared of oak savanna, prairie, and level forest for agriculture. The steep slopes between valley bottom and ridge top, unsuitable for raising crops, grew into oak-dominated forests after the ubiquitous pre-settlement wildfires were suppressed.

The PCI WA is located within the floodplain of the Mississippi River, and contributes to one of the largest contiguous stretches of floodplain forest habitat in the Midwest. The Mississippi River has been declared a nationally significant ecosystem as well as a nationally significant commercial navigation system. The river provides critical habitat for fish and wildlife in addition to supplying drinking water, recreational opportunities, and aesthetic enjoyment and renewal to people. This ecosystem provides habitat for 260 fish species, 45 amphibian and reptile species, 57 mammal species, and 37 species of freshwater mussels. It is a globally Important Bird Area for many breeding bird species and as a continental flyway for 326 bird species, including 40% of all North American waterfowl.

Current vegetation is a mix of forest (41%), agriculture (36%), and grassland (14%) with wetlands (5%) mostly in the river valleys. Primary forest cover is oak-hickory (51%). Maple-basswood forests (28%), dominated by sugar maple, basswood and red maple, are common in areas that were not burned frequently. Bottomland hardwoods (10%) dominated by silver maple, swamp white oak, river birch, ashes, elms, and cottonwood are common within the floodplains of the larger rivers. Relict "northern" mesic conifer forests composed of hemlock, white pine and associated hardwoods such as yellow birch are rare but do occur in areas with cool, moist microclimates. Dry rocky bluffs may support xeric stands of native white pine, sometimes mixed with red or even jack pine. Prairies are now restricted to steep south- or west-facing bluffs, unplowed outwash terraces along the large rivers, and a few other sites. They occupy far less than 1% of the current landscape. Mesic tall grass prairies are now virtually nonexistent except as very small remnants along rights-of-way or in cemeteries.

2. Ownership and Adjacent Land Uses

PCI WA is located almost entirely within the floodplain of the Mississippi River (see Map A). Surrounding land uses are Mississippi River channel, islands, backwaters, and floodplain forest, agricultural lands, highways/roads, and developed areas associated with the Village of Bay City, Wisconsin and City of Red Wing, Minnesota. The Red Wing Airport borders the upland portion of the property.

3. General Property Description

PCI WA consists of floodplain, floodplain islands, and peninsulas bordering the Mississippi River and its associated backwaters adjacent to and upstream of Lake Pepin, from Bay City, Wisconsin to Red Wing, Minnesota. Acquisition of the property started with a land donation from Pierce County in 1968. The county retains timber rights on these parcels. Additional acreage was purchased around the original land, including a 20-acre donation from The William Murray family, to bring the total acreage to its current size.

Soils are primarily sandy loams and silts. Bottomland hardwood forest and emergent marsh are the primary vegetative cover types on the property, along with much smaller amounts of oak and central hardwoods and a small area of upland prairie. Portions of the property contain dikes and pools used as fish holding ponds for the once-thriving commercial fishery of Lake Pepin. There is a 132-acre no-entry wildlife refuge (NR 15.02 (8)(a), Wisconsin Administrative Code; see Map A). When posted with department signs, no person may hunt waterfowl at any time within the refuge, and no person may enter the area except for retrieval of legally killed or crippled game in posted retrieval zones from September 1 through December 31 unless posted open.

Ecological management opportunities on the property include management of large tracts of floodplain forest, some native grassland and oak savanna maintenance/restoration, large river protection, and management/protection of wildlife, fish, herptiles, and invertebrates associated with these habitats.

Recreationally, the property is managed to provide opportunities for public hunting, trapping, wildlife observation, and other nature-based outdoor recreation, and receives significant fishing, boating, and hunting use.

4. Property Management Issues, Trends, and Needs

The Mississippi River floodplain is impacted by frequent natural and human-caused disturbances. The lock-and-dam system and maintenance of the 9-foot shipping channel have altered river hydrology, and commercial and recreational boat traffic accelerates erosion of floodplain islands. High rates of sedimentation and island erosion are occurring throughout the PCI property. This has led to increased connectivity

between the main channels of the Mississippi River and the backwater floodplain habitats, causing water quality, aquatic, and terrestrial habitat degradation. Large-scale floodplain habitat restoration, through partnerships, is needed to improve habitat quality. A partnership with U.S. Army Corps of Engineers (USACOE), local governments, and non-profit conservation organizations has been developed to determine the feasibility of restoration options to improve water quality, and aquatic and floodplain habitat on the PCI WA. Future management on the PCI WA will be directly affected by the results and recommendations of the feasibility study.

Invasive species documented on the property include reed canary grass, black locust, buckthorn, honeysuckle, garlic mustard, and purple loosestrife. The invasion of reed canary grass has made it more difficult to regenerate trees and maintain floodplain plant communities.

Remnant dikes from a historic hunting club are present in the wildlife refuge, but are badly deteriorated. Restoration options for the deteriorated dikes will be evaluated through the partnership feasibility study to enhance the biological value of the refuge. A nearby artesian well provides a constant supply of fresh water to the refuge. However, a recent inspection indicated that the well also is deteriorating and is non-compliant with current state standards. Further evaluation is needed to determine options for bringing the well into compliance. The results of this evaluation will determine the future operation of the well and may affect the biological value and persistence of the refuge.

5. Facility/Amenity Development

- Existing: There is a commemorative stone sign near the upland prairie recognizing the donation from the William Murray Family. A cable gate blocks vehicle access from Village of Bay City property onto the PCI WA.
- Future: Restoration of dikes and installation of water control structures in the wildlife refuge will be evaluated to improve wetland habitat.

6. Endangered, Threatened, Special Concern Species or Habitats, and Wildlife Species of Greatest Conservation Need

Numerous plant, animal, fish, and invertebrate species and natural communities are associated with the Mississippi River and its bluffs including: 3 state endangered plants; 1 state threatened plant; 4 state special concern plants; 1 state threatened invertebrate; 2 federally endangered mussels; 7 state endangered mussels; 4 state threatened mussels; 2 state special concern mussels; 1 federally threatened mammal; 3 state threatened mammals; 2 state special concern birds; 1 state special concern reptile; 3 state endangered fish; 3 state threatened fish; and 3 state special concern fish.

7. Conservation Opportunity Areas (COAs)

PCI WA is located within two COAs, both of continental significance: Mississippi River (A.10) and Mississippi Bluffs and Floodplain (11.15).

8. Easements

- There is a right-of-way easement of <1 acre across private land from Highway 35 south to the DNR property line in T24N, R17W, Government Lot 3, Section 8; DNR File #W548E; Grantor: Robert Young (currently owned by Otto Bender).

9. Land Use Agreements

None.

10. Significant Cultural and Archaeological Features

There are three burial sites known from the property.

Activities with the potential to disturb archaeological sites will only be undertaken after consultation with the WDNR Archaeologist. Any sites with cultural or historical value will be managed in accordance with guidance and statutory requirements (ss. 44.40 and WDNR Manual Code 1810.10).

11. Refuges and other Closed Areas

There is one 132-acre no-entry wildlife refuge (NR 15.02 (8)(a), Wisconsin Administrative Code) located south of Pumphouse Slough and west of Catherine Pass in T24N, R17W, Section 8 (see Map A). When posted with department signs, no person may hunt waterfowl at any time within the refuge, and no person may enter the area except for retrieval of legally killed or crippled game in posted retrieval zones from September 1 through December 31 unless posted open.

12. Primary Public Uses

The property is open to a variety of recreational activities including birding and wildlife watching, cross-country skiing and snowshoeing, falconry (by permit), hiking, hunting, fishing, trapping, and gathering of wild edibles. There are no designated trails. The property receives significant boating, fishing, and hunting use.

13. Biotic Inventory Needs

No biotic inventory has been conducted for PCI WA. As part of the ACOE feasibility study, detailed biotic inventories will be completed to provide current data on biological resources to guide future management decisions.

B. PROPERTY PURPOSE AND GOALS / MANAGEMENT OBJECTIVES AND PRESCRIPTIONS

1. Property Purpose and Goals

Purpose: Wildlife Areas (WAs) are acquired and managed under the authority of Section 23.09(2)(d)3, Wisconsin Statutes, and Chapter NR 1.51, Wisconsin Administrative Code. They are designated to provide places where people can hunt, trap, and fish. WAs also are open for traditional outdoor uses of walking, skiing, snow shoeing, nature study, berry picking, and other low-impact recreational activities. As directed by NR 1.51 and NR 1.61, other recreational uses may be allowed on WAs if those uses do not detract from the primary purpose of these properties.

Goals

- Sustain healthy, diverse forests with high scenic quality.
- Provide quality wetland habitat for wetland-dependent species in the wildlife refuge.
- Maintain and enhance opportunities for hunting, fishing, trapping, and other nature-based outdoor activities.
- Maintain and enhance the remnant prairie.

2. Management Objectives and Prescriptions

Objectives

- Manage existing floodplain forest to provide habitat for a variety of wildlife and plant species.
- Regenerate floodplain forest where access allows, enhancing the overall health and vigor of the riparian forest system.
- Restore floodplain forest where feasible.
- Follow Best Management Practices for controlling invasive species.
- Manage wetland vegetation in the wildlife refuge to improve habitat quality.
- Maintain quality, inter-connected aquatic and terrestrial habitats that sustain and enhance nature-based outdoor recreational activities.

Prescriptions

- Complete intermediate thinnings in younger floodplain forest stands to develop large-diameter trees and maintain tree health in order to extend biological rotation ages.
- Retain super-canopy cottonwoods as potential bald eagle nest trees.
- Retain cavity trees and snags for cavity-nesting species.
- Improve structural diversity within stands through regeneration harvests and by retaining coarse woody debris, creating canopy gaps of various sizes, creating and maintaining a diversity of size and age classes, and applying extended rotation or old-growth management to some stands.

- Retain sufficient canopy in regeneration harvests to prevent infestation by reed canary grass.
- Evaluate restoration options for historic dikes in the wildlife refuge to improve wetland habitat through water level manipulation.
- Use mechanical, chemical, and physical (hand-pulling, prescribed fire) control methods to set back woody invasion in the remnant prairie.

3. Special Management Issues or Constraints

- Access to the majority of the property is limited to boat access or over ice during the winter, reducing the feasibility of commercial timber harvests and machinery operations for habitat management.
- Land ownership and boundary issues constantly arise with the ever-changing dynamics (flows, sediment deposition and erosion) of the Mississippi River.
- Recurring flood events continually degrade habitat through sedimentation, limiting areas where successful restorations can occur.

Table 1. Current Facilities or Infrastructure

Type of Facility	Total (number/length)	Management Activities	Management Issues and Constraints
Public roads	0		
DNR roads	0		
Parking lots	0		
Boat landings	0		
Designated trails	0		
Dikes, ditches	2	Dikes are severely damaged and no longer function	Access to repair and maintain dikes is limited
Dams	0		
Artesian well	1		Requires evaluation to address deterioration and non-compliance with state standards.

4. Changes or Additions to Current Management and Development

This plan does not propose any changes to current management or development. However, the department is participating in a partnership with the U.S. Army Corps of Engineers (USACOE), local governments, and nonprofit conservation organizations to determine the feasibility of various restoration options to address water quality problems and degradation of aquatic and terrestrial habitats within the Mississippi River floodplain at the head of Lake Pepin. Island development and backwater dredging are

among the actions being considered. Future management on the PCI WA will be directly affected by the results and recommendations of the feasibility study.

C. REAL ESTATE ACTION ITEMS (see Table 2 and Map B)

1. Project Boundary Modifications

The southern portion of the project boundary will follow the established state line between Minnesota and Wisconsin down to River Mile 784. Thus, if the state line were ever to change, the project boundary would also change.

The plan proposes to expand the current project boundary by 376 acres. A 356-acre expansion of the project boundary into the open water in T24N, R17W, Sections 9, 10, 15, and 16 will allow potential restoration of important floodplain habitat. As part of the USACOE feasibility study, partner groups have requested that the department identify this area as a potential restoration location for island development to improve habitat and recreational opportunities on the PCI WA at the head of Lake Pepin.

The expansion proposal also includes a 3-acre parcel of land owned by the Village of Bay City in T24N R17W Section 8. This parcel provides the only upland access to the property and the department is working to secure a permanent ingress/egress easement to enhance public and management access. Modifying the boundary to include this parcel will allow greater flexibility in the future for improving access. Finally, the expansion proposal includes a small peninsula (17 acres), currently in private ownership in T24N R17W Section 7, which connects to the mainland. This parcel has an established railroad crossing and has the potential to provide excellent access to Mississippi River backwater habitat for hunting and fishing, as well as improving access for management of other islands during winter over the ice in suitable conditions.

2. Access Easements

The department has been working with the Village of Bay City to secure a 33-foot-wide permanent ingress/egress access easement to gain permanent access to the wildlife refuge from Saratoga Street in Bay City. This easement, in T24N R17W Section 8, would cross approximately 500 feet of village property to provide pedestrian public access as well as DNR vehicular access for management purposes. The department would retain the ability to improve the access to allow vehicle passage for management purposes only. The department would complete a survey in order to determine the final location of the easement, and process the transaction through the department's established real estate approval process.

3. Acquisition

The plan proposes a 212-acre increase in the property acreage goal. Currently, fee title ownership exceeds the property acreage goal by 72 acres, so an increase of the same amount is proposed to bring these two in line. However, success of management goals and objectives will require additional land acquisitions within the project boundary. To complete the USACOE restoration plans, there are several islands within the project boundary, totaling approximately 97 acres, that would need to be transferred from the federal government. Currently, these parcels are not owned by any entity, and the department will work with the Bureau of Land Management to obtain rights to these islands. Additionally, Pierce County owns 26 acres in two parcels adjacent to current state ownership. These parcels provide excellent floodplain forest habitat as well as recreational opportunities for the public. The department hopes to establish a management agreement with the County to ensure this land is managed in a manner consistent with the goals of the PCI WA, and would pursue acquisition should the county wish to divest interest in the parcels. Finally, the proposed acreage goal increase includes the 17-acre boundary expansion encompassing the privately-owned parcel along the northern property boundary (see #1, above).

4. Parcel Re-designation

Twenty-four acres of department-owned land within the PCI WA project boundary are classified as Statewide Wildlife Habitat, a statewide acquisition program permitting purchase of small-acreage sites, often outside property project boundaries, to protect fish and wildlife habitat and provide public recreational opportunities. These acres are currently being managed as part of the PCI WA. Therefore, as part of this master plan, it is proposed that these acres be re-designated as Pierce County Islands Wildlife Area.

Table 2. Real Estate Summary Table.

Overview of Real Estate Recommendations for the Pierce County Islands Tier 3 Plan											
<i>*These changes are outlined in the Draft Master Plan on the Real Estate Action Items map.</i>											
Property	Existing Fee Acres	Existing Easement Acres	Existing Project Boundary (Acres)	Proposed Project Boundary (Acres)	Changes in Project Boundary (Acres)	Existing Acquisition Goal (Acres)	Proposed Acquisition Goal (Acres)	Changes in Acquisition Goal (Acres)	Percent Complete	Parcel Redesignations (Acres)	Proposed Land Sale (Acres)
Pierce County Islands Wildlife Area	969	0.28	3,459	3,835	376	897	1,109	212	108%	24	0